

## The role of the University in Protecting and Creating Value from Indigenous Knowledge

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### Introduction

In this paper we present the experiences and results found during the first phase of an action research program being conducted in Nicaragua. The research aims to find successful ways and methods that the university can work and create relationships with indigenous communities that can result in mutual benefits. The aim is that the indigenous community can benefit by getting support in finding value in their traditional products so that they can find additional income (even commercial success) for their community. And the university can benefit in being able to research and document their experiences – in order to define new models and methods of working with the indigenous communities that results in mutual respect and goals, and clear agreements. This learning can be then used in their teaching, and diffused further in the world of complicated relationships surrounding IP and indigenous communities.

### Background

The interest in Indigenous Knowledge (IK) in the development-focused literature can be traced back some 20-25 years (see e.g. Brokensha, Warren & Werner 1980, Richards 1985, and Scoones & Thompson 1994). From these early works IK became central in debates about sustainable development, due to that IK had allowed people to live in harmony with the environment for generations (Briggs, 2005). The increasing interest in IK has depended on a change in the development paradigms. The dominant paradigm until two decades ago was modernization, the classic transfer-of-technology. The new paradigms are the ‘market-liberal’ which promotes market forces and criticizes state intervention, and the ‘neo-populist’, which promotes participation and empowerment. Both paradigms advocate IK for bottom-up participation in the development process (Sillitoe, 1998).

The World Bank (1998) recognizes that *IK provides the basis for problem-solving strategies for local communities, especially the poor*. They have advocated that the investigation of IK

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can help in the development process, because of an improved understanding of local conditions, thus increasing the responsiveness to the customers. The argument is essentially that knowledge exchange must be a two-way street, and that the vision of knowledge transfer as a conveyor belt moving in one direction from the rich, industrialized countries to poor, developing ones is likely to lead to failure and resentment. IK is not to be seen as unimportant trivia, but an important part of the lives of the poor, their main asset in the struggle to produce food, to provide shelter or to achieve control of their lives (World Bank, 1998).

There are various branches of IK. One branch of special interest is the area of **Traditional Medicine** (TM), which was the first type of structured medicine used. One of the most well-known disciplines of TM is the Traditional Chinese Medicine (TCM) which dates back some 6000 years<sup>5</sup>. Today, TM continues to be of very high importance in China, and a WHO (World Health Organization) report from 2002 shows that it constitutes about 40% of all health care given in the country. The same report shows that in Africa up to 80% of the population uses TM to help meet their primary health care needs, and that TM is of rapidly growing health system and economic importance worldwide. Another branch of IK of special interest is **Functional Foods** which can be defined as *those foods that encompass potentially healthful products including any modified food or ingredient that may provide a health benefit beyond the traditional nutrients it contains*<sup>6</sup>. Functional foods can be produced artificially, but there are also known cases of Indigenous groups who use food with special characteristics for a special purpose.

The value of IK for indigenous peoples themselves is relatively straightforward. Traditional Medicine many times constitutes the only health care available or affordable and Functional Foods help people cope with their everyday tasks and life. There are also IK related to agricultural sowing and harvesting methods which helps food production, textile production methods for making clothes, handicrafts, and cultural and spiritual elements that constitutes a great part of many indigenous peoples' culture and identity, to name but a few. But what is the value of IK outside of the communities? One important aspect is the use of TM in drug development. Many of the drugs existing today have been developed from active compounds found in plants, which in some cases have had a use in TM. Fabricant and Farnsworth (2001) found 122 different compounds globally used as drugs today that originate from 94 species of plants. For 80 percent of these plants it's documented that they have a similar or related use in

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<sup>5</sup> The Traditional Medicine Network, <http://www.traditionalmedicine.net.au/aboutus.htm>

<sup>6</sup> Definition taken from: [www.medterms.com](http://www.medterms.com), verified 2008-04-02.

TM. The process of developing drugs is very long and expensive and to find suitable candidate plants, companies screen large number of plants to see if they have a potential value for drug development. If these companies had access to knowledge about TM, i.e. if they knew certain effects of plants, they could select plants for screening more consciously instead of just randomly selecting them. It is estimated that there are more than 250 000 species of *higher plants*<sup>7</sup> worldwide which could be of importance to drug research and development, so there is a vast potential value of TM for drug development (Fabricant & Fansworth, 2001).

As an example of the value of Functional Foods, the San people of Southern Africa constitute an interesting example. For centuries they have eaten a special plant found in the Kalahari Desert called *Hoodia Gordonii*, which functions as a hunger and thirst depressant during long hunting trips (see e.g. Stahl 2004, Kraft 2002). The Council for Scientific and Industrial Research (CSIR) in South Africa found out about this effect during a research study on indigenous foods and managed to identify and patent the molecule (called P-57) that causes the effect. They later licensed the Intellectual Property Right to Phytopharm, a UK based pharmaceutical company who sold the world wide marketing rights to Pfizer for a reported US\$32 millions to develop and market diet pills. Pfizer intended to produce an identical synthesized substance instead of harvesting and importing plants from South Africa, but after several years attempts, Pfizer still hadn't managed to produce P-57 synthetically in a cost effective way and pulled out of the deal. The IP rights were instead licensed to Unilever, who were interested in harvesting plants and selling Hoodia as an anti-obesity drug. The San people were initially not given any recognition whatsoever since they “*were believed to be extinct*”, but when CBS 60 minutes and other media brought the story to public attention, things changed and a benefit sharing agreement was signed with the San people giving them an 8% share of milestone payment and 6% royalties on sales.

Similar cases have been encountered in Africa and Nicaragua that continue to replicate the evidence that Indigenous Peoples' rights have been disregarded. Such examples include *kikoy*, an East African fabric that a UK based firm tried to register as a trademark. An NGO who noticed this contacted leading Kenyan Politicians and suggested they take action. Initially, the response was that they had no interest in doing so, but after a local newspaper gave the case attention, the same person who first ignored the case decided to take action against the

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<sup>7</sup> The **higher** (vascular) **plants** are those plants that have specialized cells for conducting water and sap within their tissues, including the ferns, clumosses, horsetails, flowering plants, conifers and other gymnosperms, but not mosses, algae, and the like (non-vascular plants). *Def. from:* [www.wikipedia.org](http://www.wikipedia.org)

infringement and also took all credit for discovering the case (Bloch, 2007). Another example, but from Nicaragua this time, concerns a British female researcher who conducted research in the North Atlantic region for almost a year. She gained the confidence of indigenous people in communities and of research institutes, and obtained deep knowledge about TM. She promised to return with a book on her findings and to return some of the benefits derived from sales revenues of the book, but the woman never returned with the book and no retribution was ever made (Norgren & Smitt Einarsson, 2007).

It is interesting to point out that in both the Hoodia and the Kikoy cases, it was the “*the court of the public opinion*”, as referred to by IP specialist Peter Bloch (CIP Forum, 2007), that constituted the turning point. There has been much talk and writing about how indigenous communities can be compensated and reimbursed for the use of their IK (see e.g. Posey & Dutfield, 1996), but the actual ‘real world’ examples are few. And in the cases where there has been a positive result, it was most often due to a special individual or small organization that has acted in the interest of the communities and forced the stronger party to compensate the community. Indigenous communities must often rely on the ethics of the stronger party.

### **The Purpose**

As a result, **the purpose** with this research project is to explore possible models and strategies that would ensure that Indigenous Peoples are participating in the whole value creation process and that their rights and roles are being considered from the very start of the innovation process. The project aims to develop a better understanding of how Indigenous Peoples define the value (social, cultural, economic, and spiritual, etc.) of their IK (i.e. practises, approaches, products and services). Furthermore, the project aims to identify other potential applications of their IK in Nicaragua (to start with), to examine the potential value of these innovations and to explore the different models and strategies that can be used for protecting, diffusing and creating value from IK. Our intention is to also conduct this research project from an innovation system perspective and see what possible roles and responsibilities the University and other stakeholders in the Nicaraguan society and Central American region, can have in supporting the Indigenous Peoples in these processes. In line with this perspective, we aim to explore (every step in our process) how we develop our relationships (with the various stakeholders), what is necessary to create trust and meaning in our relationships, and to assess through reflective diaries how we experience and assess our relations.

## Relation to Other Research

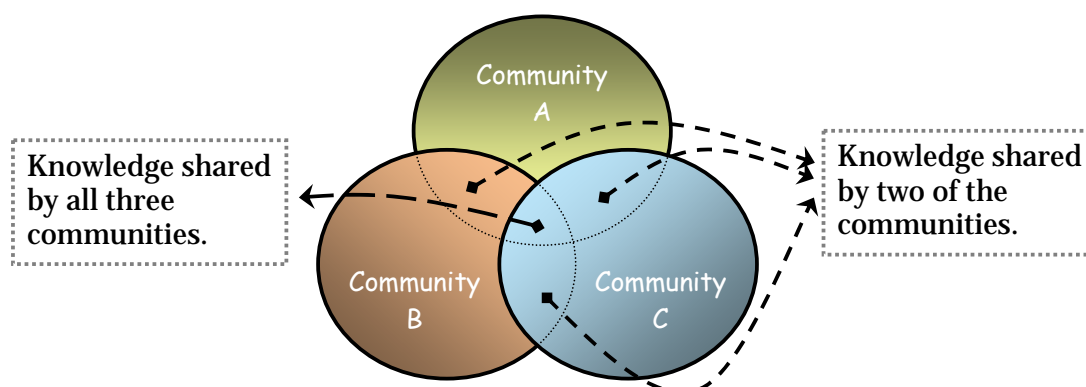
There are numerous definitions of IK. According to Louise Grenier (1998) IK refers to *the unique, traditional, local knowledge existing within and developed around the specific conditions of women and men indigenous to a particular geographic area.*

Yet another, very broad, definition by Warren (1991) defines IK as *the local knowledge that is unique to a given culture or society. IK contrasts with the international knowledge system generated by universities, research institutions and private firms. It is the basis for local-level decision making in agriculture, health care, food preparation, education, natural resource management, and a host of other activities in rural communities.*

According to Woytek (1998), IK can be distinguished from other knowledge by a number of characteristics. It is **local**, in that it is rooted in a particular community, and situated within broader cultural traditions. That it is situated in a particular community makes it difficult to separate the technical aspects from the non-technical. IK is also **tacit**, and therefore not easily codified. It is **transmitted orally**, or through **imitation and demonstration**, which also makes it more difficult to codify. IK is **experimental** and not theoretical. It is tested through trial and error during generations, and the theoretical explanations of the phenomenon are of less importance. IK is learned through **repetition**, which preserves the traditions. It is **constantly changing**, being produced and reproduced, even if it is often perceived by external observers to be static. IK can be argued to be the Intellectual Property (IP) of the Indigenous Communities that possess it and they should be part of any exploitation process of that IP.

A difficulty concerning the definition of IK is the uniqueness criteria of local knowledge, referred to above by Grenier (1998). Often it is not known whether knowledge is unique to a particular community. In fact, it is much more common that the same IK exists within several different communities. Figure 1 below shows how knowledge sometimes can overlap between communities. Each sphere represents knowledge held by a certain community. These communities don't necessarily have to be present in the same country, even though they often are. The previously mentioned Hoodia case provides a good example of this complication in two respects. First, the San People are living across South Africa and neighboring countries. Second, it was later discovered that the same IK was held by other indigenous communities in Namibia.

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**Figure 1 - Knowledge overlap between communities. (Source: Norgren & Smitt Einarsson, 2007)**

Given that IK often is held by 1) several people within a community, and 2) by several communities in different geographical locations, it is difficult to assign ownership rights of IK by using the existing Intellectual Property Rights (IPR) system. To overcome this problem the concept of Community Intellectual Rights has been introduced (see e.g. Singh 1994, Posey & Dutfield 1996). This concept is an adaption of the existing IPR system and gives collective ownership over innovations and IP instead of sole rights to one single party or person.

In Nicaragua there is already a law (Law 445) giving Indigenous Communities collective rights over physical property. There are also draft laws pending in the national assembly which, if approved, will grant Indigenous Communities collective rights over Indigenous Knowledge, i.e. their “Intellectual Property” (Norgren & Smitt Einarsson, 2007). Given that Indigenous People constitutes one of the poorest groups in Nicaragua, this is an important development since such empowerment provides one opportunity for the Indigenous Communities to protect, diffuse and create value from their IK.

However, even if and when the laws of protection will change, it is not always indicative that a value will be returned. Research has shown how, in the vast number of cases, people engaged in research and invention, are not always interested or competent to take their innovations or research findings further (Alänge & Scheinberg 2008). In other words, just because the Indigenous peoples get clearer rights to their IK, they may not be in a position (because of competence) or have the will or motivation or network to drive an ‘innovation process’. In fact, there are as many reasons expressed that call for keeping products and processes ‘secret’ rather than exploiting them publically. Hence, the Indigenous Peoples need to explore various methods and models for developing their own ‘approach’ for inviting,

‘contracting’ and developing relations with other actors to support them in the process *from* defining and protecting the value *to* promoting, diffusing and creating value from their IK for society (Alänge et al. 2006). Luckily, there are a number of ‘actors’ that the Indigenous Peoples have the possibility of exploring as possible partners in this effort. According to research on innovation partners, triple helix, industry-university relations, stakeholder alliances, etc. there are many good examples of how the University, Government agencies, enterprise, communities and NGO have collaborated (Etzkowitz 2004, Gjerding et al 2006, Alänge & Scheinberg 2008). Not the least this includes a more active role that universities around the world are taking in interaction with society and in innovation processes (Petrusson, 2007). In line with this trend, there is a current increase in representatives from various Nicaraguan Universities that have recently prioritized the importance of being innovative and their need of creating better ways of working with and relating to other stakeholders in the Innovation System. This is especially true for the University of URACCAN (University of the Autonomous Regions of the Caribbean Coast of Nicaragua) which was formed with the core mission to help the development of indigenous communities. URACCAN along with 9 other Universities are currently part of an initiative in Nicaragua called the ‘Innovative University Program’ which is driven by the Council of Nicaraguan Universities (CNU) and Chalmers University of Technology. This program’s aim is to support Nicaraguan universities into becoming more innovative and to better respond to society needs through research and extension work. The basis for this program was derived from the results found in a Latin America study (Alänge & Scheinberg, 2005) which showed the lack of entrepreneurial and innovative activity at Universities and the lack of their connectivity with the society and industry around.

We can also learn from innovation research, that for innovation to ‘happen and succeed’ it needs more than good ideas, actors, structures and mechanisms. In fact, research found (Scheinberg et al. 2006) that the glue of innovation is often the softer factors, i.e. the culture, trust, commitment, curiosity, interest in learning and the depth, quality and confidence in the relationships developed. It is clear that the culture and experience with innovation in Nicaragua is still in its infancy. This can be characterized not only by the limited number of relationships (between university and industry) and the limited research to market activities that are generated in Universities, but also by the absence of local innovations filed for protection. A recent publication by the Governmental IP office (MIFIC RPI) in Nicaragua shows that there has not been a single national patent application during the last two years,

and only 4 national applications have been filed in the last 5 years (in contrast to the increasing number of international applications filed). These trends contribute additional proof that there is urgent need to create more conscious and systematic processes to support the development of local indigenous centered innovation relations and processes that are linked and aligned with the National Innovation System in Nicaragua and the global trends that support Indigenous Peoples rights.

### **Research Design and Methodology**

Our Main Research Questions for this research project are the following:

1. How can the indigenous people's rights and participation in the entire value creation process be ensured?
2. How can Universities support the indigenous communities and participate in the value creation process of the Indigenous Knowledge?

#### Sub questions:

1. How do Indigenous peoples currently use/sell products and services based upon IK?
2. What do indigenous people see as value and how do they define their purpose and goals to further exploit (in a positive way) their IK
3. Which mechanisms, relationships and opportunities exist that supports/hinders the value creation process?
4. How do the communities (and the individuals within), as well as the universities view ownership of their innovations and how the IK can be kept, shared, protected and the benefits shared?
5. What type of models and strategies are needed for every step in the value creation process – including: understanding, defining, sharing, exploiting, protecting, the value generated by Indigenous Knowledge?
6. What kind of relationships and agreements are needed to build the trust and commitment to working and learning between and among the various stakeholder partners?
7. What is the value (benefits and hinders) of using an 'action learning approach' as the base method and model for developing and driving the community and university process towards the value discovery and development process?

In order to answer the above research questions the following **design** is being used: We will conduct this research project during the period July 2008 to December 2010 in the North



Atlantic Autonomous Region (RAAN) of Nicaragua. We have chosen this region since it's one of the poorest and least developed regions in Nicaragua and that there is a relatively large indigenous population in that region. Through the previously mentioned 'Innovative University Program in Nicaragua' the Chalmers research team has well established contacts with the University of URACCAN who is our main research partner in this project. URACCAN is a university with the mission to strengthen the autonomy of the region of RAAN, contribute to a sustainable development of the region and also to work closely with Indigenous Communities.

Together with URACCAN we have identified 3 Indigenous Communities to participate in this study along with a number of other stakeholders. These stakeholder groups represent: University (URACCAN), Regional and National Government (MIFIC IP, MINSA), Private Sector and Industry, NGOs (FUNICA, Humboldt), Linking Organizations (PLAMOTANIC), and Financial Organizations (FCR). The selection of communities has been done based on the knowledge and contacts of URACCAN. They already have several research agreements with Indigenous Communities and this research project will continue to build upon them.

In order to answer the above questions while taking into account the special needs (including the ethical, cultural and ethnic dimensions) of the Indigenous communities and the current status of the innovation system, we have chosen to design this research using an **Action Research approach based upon a Phenomenological** and hermeneutic philosophy and design. We will use data collected from 3 methods: from *action research* (leading community development activities); from qualitative (interviews) methods (with representatives from the different stakeholder groups mentioned above); and from observations and data generated during the testing of the various value creation strategies and from the interactive workshops. In addition, we will use reflective diaries to document the relationship experiences in the partnerships during the entire project period.

The criteria used to select our **sample** are as follows:

Criteria category	Criteria Description
1. Stakeholder group	The respondents should represent a distribution of the stakeholder groups mentioned above, even if our focus will be on the Indigenous Communities.
2. Location	Respondents should represent various geographical areas in Nicaragua
3. Gender & Diversity	There should be a careful consideration of the distribution between gender and ethnical background among respondents
4. Various levels of power	Respondents should represent various levels in the power system

As a result, a process consisting of **4 different phases** will be followed:

- ❖ **1<sup>st</sup> phase** – design and plan of the action research study in a joint collaboration – community and university teams (and other committed stakeholders)
- ❖ **2<sup>nd</sup> phase** – data collection – 1) interviews with practitioners of TM and community leaders, and with other stakeholders, 2) identify products, services, practices and approaches based on IK with a potential value, 3) explore possible models and strategies for protecting and diffusing the IK. Each step within the 2<sup>nd</sup> phase will follow a cycle where we conduct interviews and workshops iteratively with the respondents to feed back results, verify our findings and to make sense of our data – to support a co-creation process between the university and the indigenous communities.
- ❖ **3<sup>rd</sup> phase** – benchmarking – to learn from other good examples (see below)
- ❖ **4<sup>th</sup> phase** – to create and lead a final forum where the results of the research are fed back to the representatives from Indigenous Communities, academics, leaders, researchers and other stakeholders, in order to generate a dialogue and ideas on how to integrate the results of the research and learning further into practice and policies.

This approach has been developed, applied and evaluated, in previous action research studies conducted in Latin America (Alänge & Scheinberg, 2005). The results of this approach have proven to create a more active co-ownership among the participating stakeholders as well as create results that were more immediately used for application. **In summary**, our aim to use action research is to work towards achieving practical outcomes and to create new forms of understanding, since action without reflection and understanding is blind, just as theory without action is meaningless. Furthermore, our ambition is to support the indigenous communities and the university to jointly experiment to find relationships, methods and cases to be evaluated and used as role models in other parts of Nicaragua, Central America and the World.

**Benchmarking:** There are several exciting examples around the world that can give great insight into the protection and exploitation of Indigenous Knowledge based innovations. Our ambition is to learn from these experiences by conducting benchmarking visits and interviews in South Africa, Costa Rica, Brazil and China – including:

1. The Council for Scientific Research in South Africa managed to successfully commercialize the Hoodia Gordonii plant used by the San people. They also have a special research group on bioprospecting and value creation from innovations based on Indigenous Knowledge.

2. The National Biodiversity Institute in Costa Rica was given the rights to collect specimens in conservation areas for scientific and/or commercial research by the Ministry of Environment and Energy. They signed a bioprospecting agreement with Merck. There have been new agreements signed since e.g.: with Bristol Meyers, as a result of their learning from experience.

### **Research Cooperation**

We have selected the following University, Research Institutes and Indigenous Communities in Nicaragua as partners in this research and a Collaboration Certificate has been created:

1. URACCAN University
  - a. Campuses: Bilwi and Las Minas
  - b. Research institutes: IMTRADEC, IREMADES, IPILC, ICI, CEIMM, CISA, IEPA
2. Communities in the North Autonomous Atlantic Region (RAAN)
  - a. Tuara (Puerto Cabezas municipality; Miskitu tribe)
  - b. Musawas (Bonanza municipality; Mayangna tribe)
  - c. The Saklin (Waspam Municipality; Miskitu tribe).

### **Anticipated Results**

The main outcome anticipated from this research project - is to develop viable co-creative strategies for how to: create value from IK, ensure the indigenous community's participation in this process, understand what type of relationships and agreements are needed between the various stakeholders and to ensure that the benefits generated are given back to the indigenous people and the partners as agreed. In the process of discovering these strategies, the university will have a chance to examine and define its own role, contracts and position in this value creation process. In addition to these conceptual and contractual results we also aim to identify a number of IK based innovations (i.e. products, services, practises, approaches, etc.) with a potential social and/or economic value to serve as case role models for Nicaragua and other communities' world wide. And finally, we hope that the results contribute to community development, poverty alleviation and improved health by generating economical benefits and royalties back to the community through the exploitation of Indigenous Knowledge based innovations.

## Results achieved to date

As we are in the *first phase* of our action research project we have had an opportunity (during the first few months) to start preparing the ground – for conducting our research. The primary purpose and intention of this first phase – has been to introduce and model a way of working that follows a conscious and systematic approach (Scheinberg and Alänge 2006) – in order to slowly build relationships with our key partners (the university and the Indigenous communities), with the intent of clarifying and co-owning the main goals of this research (thereby giving all of the partners a chance to both contribute to and ‘own’ the vision, meaning and concrete goals of our joint work). In this process we have also created the opportunity for the key partners to explore and share the competences and motivation that we have, define and distribute the roles and responsibilities that are needed, discuss the values and timing of this project and identify the key resources we all needed in order to establish the commitment, motivation and energy required to drive this project. In addition, during this first phase, we have tried to gather as much information as possible – on each of the partners previous experiences (with each other and with working with IP), understanding (of the opportunities and weaknesses of this project), and the attitudes and perspectives that can support or hinder our work together (Lewin 1951, Scheinberg 2009). For example – to identify and prepare for the anticipated forces that may be for or against this way and focus of working: e.g.: worries, resistances, etc.

In the following sections we will present a few specific examples of how we have initiated our work with both our university and indigenous community partners. In each of the examples, we will also present a number of reflections on our experience in the development of the relationships in our partnership at this early stage.

### *Preparing and planning with Uraccan*

We have had a number of meetings in URACCAN with many of the key researchers and extension workers who have worked with the selected indigenous communities in the past number of years. Specifically we conducted a number of deep interviews – starting with the Rector of the university – to learn about her own experiences, understanding and recommendations of working with the selected communities. We also interviewed 4 of the researchers and extension advisors working with the communities. While most of the interviews were open and productive, we did notice a few *observations* regarding the relationship building. It is noteworthy to say – that in those interviews where we found a common or shared passion for our work then it was easier to develop a more personal

connection. And then, if a more personal relationship was established, then it was easier to follow up with our colleagues and have a more open and practical discussions regarding the goals and focus of our joint research – and share the strengths and weaknesses of our competences. It was then easy for us to plan and follow through with our joint work - with these colleagues.

However, in one relationship where a personal rapport was not possible to develop – there was a demonstration of suspicion both for our intention and motivation of our work. In this relation, the researcher preferred to lecture us, to withhold information and not answer our questions concretely or specifically (and in many cases, the researcher preferred not to answer our mails – at all). As a result of this experience, this researcher did not continue actively in our joint work.

After these initial interviews, we held an exciting workshop with many of the leaders in the research community in URACCAN – exploring and sharing the various concepts, experiences and understanding of working with IP and the indigenous communities. It became clear from our discussions, that while there was a lot of experiences in working in the communities, very little has been documented (systematically or ad hoc) and the contracting between the university and the communities has not been thorough and mutually beneficial. For example, most of the work and benefit of their cooperation is aimed for the Indigenous communities – with little defined benefit for the university or researchers.

#### *Preparing and planning with one of the Indigenous communities - Tuara*

Three planning meetings have been held in one of the Indigenous communities. The meetings were held a few months apart. In the first two cases, the meetings were held – without prior notice (there is no phone service in the community or any internet access – as the community is in a very remote region) and the meetings did not follow a formal structure. The third meeting however, was planned together with our Uraccan colleagues, who in turn were able to inform the community of the upcoming meeting – both of the agenda and the process.

During the *first meeting*, we were accompanied by the Director of Research from URACCAN, and 3 researchers working on extension projects in the community. One researcher has been engaged in a three year health program, working with and educating the community on various methods and practices for preventing illness. Two of the researchers were from Tuara, and have spent the last year personally helping to rebuild and repair homes (as 90% of the homes were destroyed in last year's hurricane) and of course spoke the local tribe's Miskitu

language. When we arrived in the village – we asked to meet with the village chief. During the first few moments of arriving, we walked around with the 2 researchers, viewing the houses they built, who then introduced us to many of the people living in the community. When we returned to our original location, we went from standing on our own, with a number of curious children and adults who were visiting the medical clinic (where we stood), to being surrounded by a crowd of over 60 persons – who joined us in an impromptu meeting held in a wooded area. All of the village leaders – the current and former chief or judge, the healer, and the religious leader – arrived and welcomed us. We communicated in a triple translation process – from English to Spanish to Miskitu and back again. During the first hour we introduced the idea and who we were. We introduced ourselves both professionally and personally. Then we asked our leaders and the group in the inner most ring to introduce themselves and to comment on what we said. After introductions, the village leader addressed what we said in a very concrete way. He made a point of addressing some very practical needs they had – i.e.: to have help buying and replanting their medicinal plant gardens (that were destroyed during the hurricane). Then for most of the next hour – the leading women in the community (led by one of the healers) addressed us and began to share the psychological trauma that the community has experienced since the hurricane. She asked Sari if she could set aside a day – during our next visit – to work together to explore how to heal and support the families in the community (most probably because she has a psychology background). The 3 hour meeting concluded (it was getting too dark to continue) with how we will continue to meet and to explore the idea and our way of working together.

During the *second* meeting, we arrived (unannounced again) – together with one of the researchers. As it was a holy day (we arrived into a very beautiful scene – as everyone was wearing white), the entire community was in a meeting in the Church preparing for the upcoming activities. We waited for them to finish their meeting – and again we walked around – visiting the families and houses that the student had supported over the year. When their meeting was over, we were invited by the leaders to present our ideas for this day. Again, we stood in an open area – we began by sharing our impressions from our first meeting, and repeated our ideas for the research project. Many of the people in the community shared their comments and asked more questions. We also had a chance to meet with some of the women from the first time – to begin exploring more deeply what it is they worried about and needed support in.

The community leaders offered us ‘a seminar format’ for our *third* meeting – which allowed us to ‘at least’ have the possibility to sit down. We also felt that it was time to become a bit more formal - so, we proposed an agenda to our colleagues in URACCAN, which they approved, translated (into Miskitu) and then physically brought out to Tuara on one of their visits. We arrived to Tuara on the set date, and like magic, the leaders of the community arrived (on time) to the school where we planned to hold our ‘seminar meeting’. For this visit, we arrived with the 2 partners from URACCAN, including: the assistant director of the IMTRADEC (The Institute for traditional medicine and community development) and one of the researchers (who joined us the previous 2 times who would help with the translation) as well as with a community leader that does not live inside Tuara (but lives in the nearby city of Bilwi). In contrast to the first 2 meetings, we set very clear goals for this meeting, as described below:

1. to explore Turara’s well being today and how they envision a successful community
2. to understand what supports and hinders the community in developing their economic well being
3. to review the list of potential products that are natural to the community that could possibly be ‘exploited’
4. to explore ways to look at the potential for a product or service development

We worked for 7 hours with about 80 persons from the community leadership. After reviewing the goals and leading a ‘check in’ (warm up exercise) for the group, we designed a process that divided the community leaders into 4 smaller groups. The goal was for each group to lead a discussion in line with how they evaluated their community’s well being. Each group would then generate a list of what is ‘*working*’ in their community and what is ‘*not working*’. After each group presented their lists we conducted an analysis of their findings (as a group) in order to understand the nature of the issues at hand and to help prioritize the issues presented. The analysis was done using 3 key principles to organize their findings – and we discovered the following together (we provide only one example for each principle below):

1. Those problems that can be solved immediately and without resources
  - a. Problem- There was a general feeling of a ‘lack of love and generosity’ in the community; especially since the last hurricane (hence people are feeling lonely, distressed, and hopeless, etc.).
  - b. Solution – As so many in the community had the same feelings, it was agreed to pay attention to this issue, and to try to be more loving, generous to each other. Women would start small support groups that would meet regularly.

2. Those problems that can be solved with leadership support/intervention (without resources)
  - a. Problem – the medic assigned by the regional government to provide local health care in the community and who is responsible for the clinic in Tuara, is not reliable and not present enough (whereby people are not getting the medical support needed and some people have died as a result)
  - b. Solution – the leaders of the community would meet with the medic and ‘re-contract’ with him – to be clearer with his hours, tasks and demands for the community medical services. It was also agreed to develop a better cooperation between the medic and the traditional medicine healers.
3. Those problems that can be solved with resources (distinguishing the resources needed)
  - a. Problem—the community lost their medicinal plants garden in the last hurricane and worries that they do not know how to find, grow and treat the plants in the proper way
  - b. Solution – the assistant director of IMTRADEC offered 2 types of support: first, to offer concrete training (with medicinal plants) for the 10 main healers in the community at their Institute (joining healers from other communities) and second to send a team of experts to Tuara to help with the replanting of the medicinal plants.

After this exercise, the whole community reflected together on the concrete results achieved and we generated a number of reflections from this experience and how we would continue working. One important reflection was to observe who the natural community leaders were and to recognize that they were not always those living permanently inside the community.

After this process was completed, all of the women in the community requested to have their own session with Sari, to review some issues that affected them personally. One of the key issues that came up was their desperation and frustration of ‘not being productive’. They felt they had so much time, so much interest but were not able to generate income as they hoped and wanted. Together we explored their dreams and ideas and came up with a list of 10 activities that they could do that would – build on their competence and motivation; that could generate income for themselves and the community; and that could include a group of highly motivated women from the very start. Small groups were formed and a plan was developed for how to continue developing the ideas.



Finally, the day was coming to an end, as it was getting too dark to continue and we all felt satisfied that our work was completed.

*A few important observations collected from these first 3 meetings*

Reflections on our relationships

There was openness in our relationships both with the community and with our colleagues from URACCAN from the start. This was most probably due to the fact that we had the 2 researchers in our team that grew up in this village and who continued being so generous to the community (we arrived with ‘good will’). It was also good that the director of research from URACCAN was in our team, who had a long term dedication to research and the community. We also believe that we were able to create a more dynamic relationship between the community and ourselves because we presented ourselves not only ‘professionally’ but also more ‘personally’. This openness (e.g. ‘I am a psychologist who cares about our well being and healing...’) showed that we are interested in working with them not only on task, but also in a more *holistic* and *personal* way. So by sharing our values and approach to working helped create openness in our communication. This in turn made it possible, e.g.: for the women in the community to share their deepest worries and demand support related to the most pressing issue ‘the trauma in the community’ (and not only follow our ‘main agenda’ questions regarding IK).

Clarity of goals

It was also very important that we were very clear with our goals and motivation (that there was a mutual need and gain) – and did not appear to have any other ‘agendas’ in our aims. This was important for the relationships both with our colleagues at URACCAN and with the leaders in the community.

Reflections on the commitment and mutuality

It was important that we returned to the community in regular intervals, to show our commitment and to build trust between the parties. It was also important that the leadership themselves wanted to continue to develop our relationship and offered a more formal option of arranging ‘a seminar meeting’ (for our 3<sup>rd</sup> meeting). This allowed us to work with the community in a more serious and structured way and to deepen our understanding of their current context and priorities.

Reflections on openness and flexibility

It was useful for us to be open and listening during the first 2 meetings. We did not have a fixed agenda when we arrived but had the ambition primarily to be open and clear about our

ideas and motivation and to explore together with the community their own ideas of what could be useful for them. As a result, we found ourselves working in a very flexible way. One important result of the openness was getting permission from the village leaders to access the list of medicinal plants that are being used in the community and that have been identified (previously) together with one of the university researchers. We will start using this list in the next step, to look for opportunities.

#### Going slowly and building on meaning

And finally it became clear to us – that there was no use in ‘forcing our questions’ of IK onto the community leadership in a direct sense. We learned instead, that we had to work the other way around. We realized from our first meeting – that before we could continue talking about IK – we needed to take a ‘step back first’ and direct the questions from ‘their point of view’. So, we realized that we needed to learn first about how the community supports itself and what income sources sustain them. We realized that we needed to know more about the other issues and visions in Tuara – those that both hindered them and supported them to live a good life (as a community). We also realized that we needed to learn who were the formal and informal leaders and to start developing alliances with those people who had the energy and motivation (and authority) to be partners with us in the development process. We realized that it was important to work slowly, in order to assure that we work together as a ‘multi-stakeholder team’. By following the co-creative approach, (with our colleagues in Uraccan and with the leaders in Turara) we were able to experience and learn how to collect and analyse data together. This ground or experience will then hopefully allow us to (together) continue developing a picture and vision for how to continue building up Tuara to develop an income generating product or service based upon their IK in their community.

#### Beneficiaries of the cooperation

At this point in time, it is clear from the activities and process being followed that most effort is driven by the university team aimed to support the Tuara community. All focus and active goals are oriented to looking for the benefit of the indigenous community. While there is nothing ‘wrong’ with this focus in the start of this work, we need to remember that the ultimate goal is to find and have ‘mutual benefit’ for both the community and the universities. We will need to pay attention to how to integrate this ‘more mutual’ perspective in our upcoming meetings.

## Conclusion

In summary, it is very exciting for us – to have this opportunity to start our work in a team with URACCAN and the Tuara community. Even though we are constantly reminded of the vulnerability of our work, relations and project, we have developed and are following a method of working that is built upon experimenting, reflecting and learning as we go. It is critical that we have allowed ourselves this slow and open process to start our project and to build up the relationships and trust that is needed. However with that said, it is clear that it is not only the indigenous community that sets up the obstacles or resistance to cooperation – but the university's own mistrust, perceptions, insecurity and a few bad experiences as well. It is exciting that we will continue in our project for the upcoming year and a half and be able to continue to document both the objective process and results and more personal reflections and experiences. Hopefully, we will be able to find and document, at the end of this experience a co-creative model of working between universities and indigenous communities that will lead to finding and developing a commercially viable product or service based upon their IK.

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